DOCUMENT RESUME

ED 481 230 TM 035 332

AUTHOR	Porter, Barry E.; Surry, Daniel W.; Ensminger, David C.
TITLE	Reliability Test Results for an Implementation Profile Instrument.
PUB DATE	2003-09-00
NOTE	8p.
PUB TYPE	Reports - Research (143)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Graduate Students; Graduate Study; *Innovation; *Profiles; *Program Implementation; Reliability
IDENTIFIERS	*Test Retest Reliability

ABSTRACT

This test-retest reliability study was conducted to test the reliability of an instrument designed to measure the relative importance of eight implementation conditions. Data for the Ensminger-Surry Implementation Profile Instrument (ESIP) were gathered starting January 2003. Participants were from a variety of occupations. Ages ranged from the early 20s through the middle 50s. The main goal of the ESIP is to determine the relative importance of eight conditions that have been shown to facilitate the implementation of an innovation. The testing took place in a test-retest format with approximately a 2-week interval between test sessions. Participants were graduate students in education in the classes of three professors. The study resulted in statistically significant correlations on each of the eight dimensions for both forms. Findings show high test-retest reliability for one form and fairly strong test-retest reliability for the other form investigated. (SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 481 230

Reliability Test Results for an Implementation Profile Instrument

Fall 2003

Barry E. Porter

Daniel W. Surry

David C. Ensminger

University of South Alabama

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

B. Porter

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

TM035332

BEST COPY AVAILABLE

Reliability Test Results for an Implementation Profile Instrument

Overview

This paper reports the results of a test – retest reliability study. The study was conducted to test the reliability of an instrument designed to measure the relative importance of eight implementation conditions. Data for the Ensminger-Surry Implementation Profile Instrument (ESIPI) were gathered starting in January, 2003. Data collection lasted through September, 2003. Participants were from a variety of occupations, ranging from elementary education to business management to government. Ages of the participants varied from the early 20s through the middle 50s.

Background

The main goal of the Ensminger-Surry Implementation Profile Instrument is to determine the relative importance of eight conditions that have been shown to facilitate the implementation of an innovation. The conditions were developed by Donald P. Ely (Ely 1990, 1999; Surry & Ely, 2001). These conditions are:

1.) Dissatisfaction with the status quo,

2.) Knowledge and Skills,

3.) Adequate Resources,

4.) Availability of Time,

5.) Rewards and Incentives,

6.) Participation and Involvement,

7.) Commitment and Support, and

8.) Leadership.

The purpose of the ESIPI is to determine which conditions are more or less important in an individual's decision to implement an innovation. There are two versions of ESIPI: one determines the relative importance of the eight conditions related to a process innovation and one determines the relative importance of the eight conditions related to a technology innovation. By determining the relative importance of each condition, an individual's "implementation profile" can be determined. Also, by determining the profile for everyone within an organization, it will be possible to determine an "organizational implementation profile."

Instrument

The ESIPI is a 56-item instrument. Each item presents a statement representing two implementation conditions. For example, the instrument may pair a statement related to the condition of "Time" with one related to the condition of "Leadership." Participants must then choose which condition is more important to their decision to implement an innovation. Seven outside experts familiar with innovation and change validated the statements presented on the instrument. Each condition is paired with each of the other seven conditions twice. This results in the 56 items on the instrument. A person can score from 0 to 14 on each of the eight conditions, depending upon the number of times they selected that condition. A person's "implementation profile" is, therefore, represented by a score from 0 to 14 on each condition.

Participants

Thirty-nine participants completed both the test and retest for the technology form. Thirty-eight participants completed both the test and retest for process form. None of the participants completed both forms. The nature of this study did not allow for strict control of the test environment. The reliability testing occurred in a test-retest format with approximately a 2 week interval between test adminstration sessions. It took approximately 20 minutes to complete the form each time. The participants were a mixed sample taken from graduate level classes in Education. All of the participants had at least an undergraduate education. There was a wide variety in ethnicity, age, occupation, gender, educational level, and familiarity with technology.

Environment

Three professors agreed to allow the test to be given on a voluntary basis to students in each of their classes. The testing took place before the start of designated class times. Each testing period took place in the classroom without distraction. Special arrangements were made for those participants with disabilities who wished to participate. Participants were informed of the nature of the study as well as any potential risks or benefits. Written consent was provided by each participant prior to the first test.

Results

Pearson's r was used to determine the relationship between the profile scores on the first test and profile scores on the retest. Prior to analyzing our data, we decided that a .70 correlation coefficient would be the standard for strong reliability.

Thirty-nine pairs of participant responses were included in the statistical analysis of technology form. The correlations for all eight conditions were statistically significant (see Table 1). The categories of Skill and Knowledge, Availability of Time, Participation and Involvement, Commitment and Support, and Leadership all showed a strong test-retest correlation above the .70 standard. Three categories (Dissatisfaction with Status Quo, Adequate Resources, and Rewards and Incentives) resulted in statistically significant correlations, albeit slightly below the .70 standard. The mean correlation for technology form was .747.

Table 1: Test/Retest Coefficients and P-Values technology form (N=39)

Conditions	Correlation Pretest/ Posttest	P-Value
Dissatisfaction with the Status Quo	.586	.05
Knowledge and Skills	.761	.01
Availability of Resources	.687	.01
Availability of Time	.773	.01
Rewards and Incentives	.646	.01
Participation	.864	.01
Commitment	.782	.01
Leadership	.778	.01
MEAN	.747	-

Thirty-eight usable pairs of participant responses were included in the statistical analysis of the process form. The correlations for all eight conditions were statistically significant (see Table 2). The categories of Rewards and Incentives, Availability of Time, Participation and Leadership all showed a strong test-retest correlation at or above the .70 standard. The remaining four categories (Dissatisfaction with Status Quo, Adequate Resources, Skills and Knowledge, and Commitment) resulted in statistically significant

correlations, albeit below the .70 standard. The mean correlation for process form was .612.

Table 2: Test/ Retest Coefficients and P-Values process form (N=38)

Conditions	Correlation Pretest/ Posttest	P-Value
Dissatisfaction with the Status Quo	.349	.032
Knowledge and Skills	.618	.000
Availability of Resources	.478	.002
Availability of Time	.764	.000
Rewards and Incentives	.804	.000
Participation	.695	.000
Commitment	.439	.006
Leadership	.746	.000
MEAN	.612	-

In summary, the test-retest reliability study of the Ensminger-Surry Implementation Profile Instrument resulted in statistically significant correlations on each of the eight conditions for both forms. The mean correlation coefficient for technology form was .747. We believe this shows there is extremely high test-retest reliability for this form of the instrument. The mean correlation coefficient for Form B was .612. We believe this shows there is fairly strong test-retest reliability for this form of the instrument. More research, including individual item analysis, is needed to determine the cause of the different levels of reliability of the 2 forms of the instrument.

References

Ely, D.P. (1990). Conditions that facilitate the implementation of educational technology innovations. *Journal on Research on Computing in Education, 23*(2), 298-305.

Ely, D.P. (1999). Conditions that facilitate the implementation of educational technology innovations. *Educational Technology, 39*, 23-27.

Surry, D.W., & Ely, D.P. (2001). Adoption, diffusion, implementation, and institutionalization of educational innovations. In R. Reiser & J. V. Dempsey (Eds.), *Trends & Issues in Instructional Design and Technology*. Upper Saddle River, NJ: Prentice-Hall.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

ERIC Educational Resources Information Center

REPRODUCTION RELEASE

(Specific Document)

TM035332

I. DOCUMENT IDENTIFICATION:

Title: Reliability Test Results for an Implementation Profile Instrument	
Author(s): Barry E. Porter, Daniel W. Surry and David C. Enamingo	
Corporate Source: University of South Alabama	Publication Date: Fall 2003

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents	The sample sticker shown below will be affixed to all Level 2A documents	The sample sticker shown below will be affixed to all Level 2B documents
PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY Sample TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) 1	PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY Sample TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) 2A	PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY Sample TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) 2B
Level 1 ☒	Level 2A ☐	Level 2B ☐
Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.	Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only	Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, please

Signature: Barry E Porter	Printed Name/Position/Title: Barry E. Porter	
Organization/Address: University of South Alabama, College of Education, UCOM 3700, Mobile, Alabama 36688	Telephone: 251-380-2861	FAX: 251-380-2713
	E-Mail Address: barry@iphrase.org	Date: 11/23/03

(Over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

University of Maryland
ERIC Clearinghouse on Assessment and Evaluation
1129 Shriver Lab, Bldg 075
College Park, MD 20742
Attn: Acquisitions

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

University of Maryland
ERIC Clearinghouse on Assessment and Evaluation
1129 Shriver Lab, Bldg 075
College Park, MD 20742
Attn: Acquisitions